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SEARCH REQUEST FORM Scientific and Technical Information Center - EIC2800

Rev. 8/27/01 This is an experimental format -- Please give suggestions or comments to Jeff Harrison, CP4-9C18, 306-5429.

Date 2/24/04 Serial # 10/022,292 Priority Application Date _____

Your Name M. Lewis Examiner # _____

AU 2899 Phone 272-1838 Room 5A30

In what format would you like your results? Paper is the default. PAPER DISK EMAIL

If submitting more than one search, please prioritize in order of need.

The EIC searcher normally will contact you before beginning a prior art search. If you would like to sit with a searcher for an interactive search, please notify one of the searchers.

02-25-04 A08:52 IN

Where have you searched so far on this case?

Circle: USPT DWPI EPO Abs JPO Abs IBM TDB

Other: _____

What relevant art have you found so far? Please attach pertinent citations or Information Disclosure Statements. See DPCI search 3/2/04

What types of references would you like? Please checkmark:

Primary Refs ✓ Nonpatent Literature ___ Other _____

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What is the topic, such as the **novelty**, motivation, utility, or other specific facets defining the desired **focus** of this search? Please include the concepts, synonyms, keywords, acronyms, registry numbers, definitions, structures, strategies, and anything else that helps to describe the topic. Please attach a copy of the abstract and pertinent claims.

15 - per email

Claims 4, 13-16, 19-20 (Independent) 4, 16,

Problem: See paragraphs 3-10

Solution: " " 11-13

Staff Use Only	Type of Search	Vendors
Searcher: HERTZOG	Structure (#)_____	STN ✓
Searcher Phone: 2-2663	Bibliographic ✓	Dialog ✓
Searcher Location: STIC-EIC2800, ~~CP4-9C18~~ 4A60	Litigation_____	Questel/Orbit_____
Date Searcher Picked Up: 2/27/04	Fulltext_____	Lexis-Nexis_____
Date Completed: 3/03/04	Patent Family_____	WWW/Internet_____
Searcher Prep/Rev Time: 550	Other_____	Other _____
Online Time: 159		

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S3    3267308   AL OR ALUMINUM OR ALUMINIUM
S4    1195222   SUBSTRATE? ? OR STRATUM? ?
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S6      65583   COEFF?(3N)(EXP OR EXPN OR EXPAN?????)
S7    1201007   ALIGN????? OR (REL OR RELATI????????)(2N)(POSN OR POSITION-
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S10     19651   S3(3N)S4
S11      1229   S5(5N)S6
S12         0   S9 AND S10 AND S11
S13         0   S1 AND S2 AND S3 AND S4 AND S5 AND S6
S14        30   S2 AND S3 AND S4 AND S5 AND S6
S15        23   RD (unique items)
S16        23   S15 NOT PY>2000
S17        90   S2 AND S3 AND S5 AND S6
S18        74   RD (unique items)
S19        69   S18 NOT PY>2000
S20        46   S19 NOT S16
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20/9/3 (Item 3 from file: 2)
DIALOG(R)File 2:INSPEC

5841578 INSPEC Abstract Number: A9807-0630M-002
Title: Strain gauge techniques for measuring thermal expansion
Author(s): Lord, J.D.
Issued by: Nat. Phys. Laboratory, Teddington, UK
Publication Date: May 1997 Country of Publication: UK 4 pp.
Material Identity Number: XR98-00056
Report Number: NPL CMMT(MN)012
Abstract: A novel strain gauge technique has been used to measure the thermal expansion behaviour of a number of materials including **copper**, **aluminium** and both **polymer** and metal matrix composites. **Copper** and **aluminium** were used for calibration purposes and validation of the technique. The values obtained from the strain gauge method for the **coefficient** of thermal **expansion**, between 25-100 degrees C, of **copper** and **aluminium** were 16.6 and 23.4*10/sup -6// degrees C respectively and these are in good agreement with typical handbook values. Two case studies are presented in this document, but a number of other materials are covered in an NPL report which describes the technique in more detail and discusses the merits and application of the strain gauge method. Practical tips are given where possible and conventional dilatometry data are presented for some materials for comparison. It is difficult to quantify the absolute accuracy of the measurements because this depends to a large extent on the quality of the strain gauge installation, but uncertainties associated with the measurements are typically 5-10%.